

# Audit



# Report

## OFFICE OF THE INSPECTOR GENERAL

DEFENSE BASE REALIGNMENT AND CLOSURE  
BUDGET DATA FOR THE RELOCATION OF THE E-2  
MAINTENANCE HANGAR FROM NAVAL AIR STATION  
MIRAMAR, CALIFORNIA TO NAVAL AIR STATION  
NORTH ISLAND, CALIFORNIA

Report No. 97-069

January 14, 1997

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### **Acronyms**

BRAC	Base Realignment and Closure
MILCON	Military Construction
NAS	Naval Air Station



**INSPECTOR GENERAL**  
**DEPARTMENT OF DEFENSE**  
**400 ARMY NAVY DRIVE**  
**ARLINGTON, VIRGINIA 22202-2884**



Report No. 97-069

January 14, 1997

**MEMORANDUM FOR UNDER SECRETARY OF DEFENSE (COMPTROLLER)  
ASSISTANT SECRETARY OF THE NAVY (FINANCIAL  
MANAGEMENT AND COMPTROLLER)**

**SUBJECT: Audit of Defense Base Realignment and Closure Budget Data for the  
Relocation of the E-2 Maintenance Hangar From Naval Air Station  
Miramar, California to Naval Air Station North Island, California  
(Project No. 7CG-5002.02)**

### **Introduction**

We are providing this audit report for your information and use. The audit was required by Public Law 102-190, "National Defense Authorization Act for Fiscal Years 1992 and 1993," December 5, 1991. Enclosure 1 provides details on the history of the Defense base realignment and closure (BRAC) process and on our auditing and reporting requirements.

This report is one in a series about FY 1998 BRAC military construction (MILCON) costs. The report provides the results of the audit of project P-820U, "Maintenance Hangar," at Naval Air Station (NAS) North Island, California, that was proposed as a result of the relocation of four E-2 squadrons from NAS Miramar, California.

### **Audit Results**

The Navy properly planned, programmed, and documented the FY 1998 BRAC MILCON requirement of \$28.9 million for project P-820U for the construction of a maintenance hangar in accordance with Navy criteria and public law.

### **Audit Objectives**

The overall audit objective was to determine the accuracy of BRAC MILCON budget data. The specific objectives were to determine whether the proposed project was a valid BRAC requirement, whether the decision for MILCON was supported with required documentation including an economic analysis, and whether the economic analysis considered existing facilities. Another objective was to assess the adequacy of the management control program as it applied to the overall audit objective. The management control program will be discussed in a summary report on FYs 1997 and 1998 BRAC MILCON budget data.

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## Scope and Methodology

**Scope of This Audit.** We examined the FY 1998 BRAC MILCON budget request and related documentation regarding the relocation of the E-2 Maintenance Hangar from NAS Miramar to NAS North Island. We reviewed the supporting documentation for project P-820U valued at \$28.9 million. We did not use computer-processed data or statistical sampling procedures to conduct this audit. See Enclosure 1 for the overall scope of the audit of BRAC MILCON costs.

**Audit Period, Standards and Locations.** This economy and efficiency audit was conducted from September through October 1996 in accordance with the auditing standards issued by the Comptroller General of the United States as implemented by the Inspector General, DoD. We visited or contacted individuals and organizations within DoD. Further details are available upon request.

## Prior Audits and Other Reviews

Three summary reports have been issued for the audits of BRAC budget data for FYs 1992 through 1996. The summary reports list individual projects. Since April 1996, numerous additional reports have been issued that address DoD BRAC budget data for FYs 1997 and 1998. Details on the reports are available upon request.

## Project Background

**Project Justification.** Project P-820U was originally budgeted as an FY 1996 BRAC MILCON project, estimated to cost \$24.3 million. The project was required to relocate a maintenance hangar facility for four E-2 aircraft squadrons from NAS Miramar to NAS North Island. The Naval Audit Service Report Number 029-96, "Fiscal Years 1996 and 1997 Military Construction Projects Stemming from Decisions of the 1995 Base Closure and Realignment Commission," February 27, 1996, stated that the Navy had valid project requirements. However, the Navy rescheduled this project to be funded in FY 1998. The Navy also revised the scope of the project and increased the project cost to \$28.9 million. We reviewed the revised scope and validated the cost of the project. Table 1 shows the FY 1996 budget data and the revised FY 1998 budget data for project P-820U.

**Table 1. FY 1996 Budget Data and Revised FY 1998  
Budget Data for the Maintenance Hangar Project**

Elements	Budget Data			
	FY 1996		FY 1998	
	Square Feet	Estimated Cost (thousands)	Square Feet	Estimated Cost (thousands)
<b>Primary Facility</b>				
Maintenance hangar	87,643	\$ 8,680	91,811	\$10,150
Applied instruction facility	29,049	3,170	30,346	3,510
Fixed point utility system		2,390		2,390
Operational trainer facility	9,450	1,400	9,664	1,730
Aircraft parking apron*		810		810
Overhead bridge crane		400		510
Fixed point utility system compressor building		390		390
Power check pads				50
<b>Supporting Facility</b>				
Paving and site improvement		3,200		1,700
Sound control system				1,700
Electrical utilities		600		1,500
Mechanical utilities		600		1,300
Environmental mitigation		200		200
Subtotal		\$21,840		\$25,940
Contingency (5 percent)		1,092		1,297
Subtotal		\$22,932		\$27,237
Supervision, inspection, and overhead (6 percent)		1,376		1,634
<b>Total</b>	<b>126,142</b>	<b>\$24,308</b>	<b>131,821</b>	<b>\$28,871</b>

\*Aircraft parking apron space increased from 53,960 square yards to 57,150 square yards; however, the estimated cost remained unchanged.

## Discussion

**BRAC MILCON Space Requirements.** The Navy properly justified space requirements for the relocation of the E-2 Maintenance Hangar to NAS North Island. We reviewed the DD Form 1391, "FY 1998 Military Construction Project Data," September 6, 1995, and supporting documents, including the basic facility requirement and the facility study. The Navy requires a maintenance hangar, applied instruction building, operational trainer facility, aircraft parking apron, and fixed point utility system to support four E-2 aircraft squadrons that will be relocated from NAS Miramar to NAS North Island. The justification for the facilities was based on the allowances contained in the Naval Facilities Engineering Command Publication P-80, "Facility Planning Criteria for Navy and Marine Corps Shore Installations," October 1992 (revised September 1993).

**Additional Space Requirements.** Additional space was necessary to meet requirements of the Americans with Disabilities Act of 1990, which include restrooms, corridors, and an elevator car. The increased space requirements of

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the Sensitive Compartmented Information Facility were necessary to meet the security requirements in accordance with the Central Intelligence Agency Directive 1/21, "Physical Security Standards for Sensitive Compartmented Information Facilities," July 1994, for the four E-2 aircraft squadrons. Finally, the aircraft washrake size was properly increased for cleaning aircraft in conjunction with periodic maintenance.

**BRAC MILCON Cost Requirements.** The DD Form 1391 estimated that project P-820U would cost \$28.9 million. We concluded that the cost of the primary facilities portion of the project was overstated by \$2.1 million and the cost of the supporting facilities portion of the project was understated by \$2.7 million.

**Cost of Primary Facilities.** The Southwest Division, Naval Facilities Engineering Command, San Diego, California, contracted with Becker & Pritchett Structural Engineers Inc., Lake Forest, California, to develop the construction estimate for project P-820U, when the project was 15 percent designed. The Southwest Division, Naval Facilities Engineering Command, considered the cost estimate of the primary facilities developed by the contractor to be understated. Therefore, the Southwest Division, Naval Facilities Engineering Command, developed the cost estimates for the primary facilities by using the Military Handbook 1010A, "Cost Engineering and Policy Procedures," August 1, 1992. However, Military Handbook 1010A is a guide for the preparation of planning cost estimates. It does not provide a complete analysis of the project. Therefore, the costs developed by the contractor represent a more realistic cost estimate and should be used to budget project P-820U. Our computation showed that the Navy overstated the cost of the primary facilities by \$2.1 million.

**Cost of Supporting Facilities.** The Navy indicated that it needs to install a sound control system and additional electric power capabilities for project P-820U. As a result, the cost for the supporting facilities was understated by \$2.7 million from the cost reported in the DD Form 1391 for project P-820U.

**Sound Control System.** The Navy justified the requirement for the sound control system. The Navy conducted an analysis to determine the effect of aircraft noise on buildings that will be in close proximity to the site where the maintenance hangar will be located. The analysis supported the Navy position that the Navy should install sound-rated windows and doors and modify walls and roofs of the adjacent buildings to insure a reasonable level of sound control. The estimated cost of the sound control system is \$2.4 million.

**Requirement for Additional Electric Power Capabilities.** The closest electric switch station to the maintenance hangar could not provide adequate electric storage capacity. Therefore, the Navy determined that it must install 13,500 linear feet of wiring costing \$1.4 million to transmit additional electrical power from the main switch station to the E-2 Maintenance Hangar. The Navy properly justified the requirement for the additional electric power capabilities from the main switch station.

Table 2 shows the differences between the estimated cost of each element of the project.

**Table 2. Revised Cost Estimates of Maintenance Hangar Requirements**

<u>Elements</u>	<u>FY 1996 Cost (thousands)</u>	<u>FY 1998 Cost (thousands)</u>	<u>Per Audit Cost (thousands)</u>	<u>Difference: FY 1998 Vs Audit Cost (thousands)</u>
<b><u>Primary Facility</u></b>				
Maintenance hangar	\$ 8,680	\$10,150	\$ 8,959	\$1,191
Applied instruction facility	3,170	3,510	3,381	129
Fixed point utility system	2,390	2,390	634	1,756
Operational trainer facility	1,400	1,730	1,430	300
Aircraft parking apron	810	810	2,288	(1,478)
Overhead bridge crane	400	510	512	(2)
Fixed point utility system compressor building	390	390	178	212
Power check pads	<u>0</u>	<u>50</u>	<u>50</u>	<u>0</u>
Subtotal (Primary Facility)	\$17,240	\$19,540	\$17,432	\$2,108
<b><u>Supporting Facility</u></b>				
Paving and site improvement	3,200	1,700	2,300	(600)
Sound control system		1,700	2,415	(715)
Electrical utilities	600	1,500	2,393	(893)
Mechanical utilities	600	1,300	1,784	(484)
Environmental mitigation	<u>200</u>	<u>200</u>	<u>234</u>	<u>(34)</u>
Subtotal (supporting facility)	\$ 4,600	\$ 6,400	\$ 9,126	(\$2,726)
Subtotal (for primary and supporting facility)	\$21,840	\$25,940	\$26,558	(\$ 618)
Contingency (5 percent)	<u>1,092</u>	<u>1,297</u>	<u>1,328</u>	<u>(31)</u>
Subtotal	\$22,932	\$27,237	\$27,886	(\$ 649)
Supervision Inspection and Overhead (6 percent)	<u>1,376</u>	<u>1,634</u>	<u>1,674</u>	<u>(40)</u>
<b>Total</b>	<b>\$24,308</b>	<b>\$28,871</b>	<b>\$29,560</b>	<b>(\$ 689)</b>

## Summary

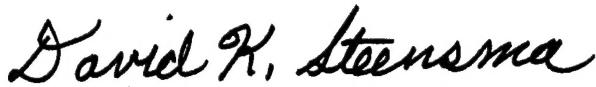
The Navy properly justified the space requirements for FY 1998 project P-820U. Although the Navy overstated the cost for the primary facilities portion of the project by \$2.1 million and understated the cost for the supporting facilities portion of the project by \$2.7 million, the difference in total cost closely approximates the revised budgeted amount. Therefore, no recommendation will be made.

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## Management Comments

We provided a draft of this report to you on November 20, 1996. Because the report contains no findings or recommendations, comments were not required, and none were received. Therefore, we are publishing this report in final form.

We appreciate the courtesies extended to the audit staff. For additional information on this report, please contact Mr. Wayne K. Million, Audit Program Director, at (703) 604-9312 (DSN 664-9312) or Mr. Nicholas E. Como, Audit Project Manager, at (703) 604-9215 (DSN 664-9215). Enclosure 2 lists the planned distribution of this report. The audit team members are listed inside the back cover.



David K. Steensma  
Deputy Assistant Inspector General  
for Auditing

Enclosures

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## Background of Defense Base Realignment and Closure

**Commission on Defense Base Closure and Realignment.** On May 3, 1988, the Secretary of Defense chartered the Commission on Defense Base Closure and Realignment (the Commission) to recommend military installations for realignment and closure. Congress passed Public Law 100-526, "Defense Authorization Amendments and Base Closure and Realignment Act," October 24, 1988, which enacted the Commission's recommendations. The law also established the Defense Base Closure Account to fund any necessary facility renovation or MILCON projects associated with BRAC. Public Law 101-510, "Defense Base Closure and Realignment Act of 1990," November 5, 1990, reestablished the Commission. The law also chartered the Commission to meet during calendar years 1991, 1993, and 1995 to verify that the process for realigning and closing military installations was timely and independent. In addition, the law stipulates that realignment and closure actions must be completed within 6 years after the President transmits the recommendations to Congress.

**Required Defense Reviews of BRAC Estimates.** Public Law 102-190, "National Defense Authorization Act for Fiscal Years 1992 and 1993," December 5, 1991, states that the Secretary of Defense shall ensure that the authorization amount that DoD requested for each MILCON project associated with BRAC actions does not exceed the original estimated cost provided to the Commission. Public Law 102-190 also states that the Inspector General, DoD, must evaluate significant increases in BRAC MILCON project costs over the estimated costs provided to the Commission and send a report to the congressional Defense committees.

**Military Department BRAC Cost-Estimating Process.** To develop cost estimates for the Commission, the Military Departments used the Cost of Base Realignment Actions computer model. The Cost of Base Realignment Actions computer model uses standard cost factors to convert the suggested BRAC options into dollar values to provide a way to compare the different options. After the President and Congress approve the BRAC actions, DoD realigning activity officials prepare a DD Form 1391, "FY 1998 Military Construction Project Data," for each individual MILCON project required to accomplish the realigning actions. The Cost of Base Realignment Actions computer model provides cost estimates as a realignment and closure package for a particular realigning or closing base. The DD Form 1391 provides specific cost estimates for an individual BRAC MILCON project.

**Limitations and Expansion to Overall Audit Scope.** Because the Cost of Base Realignment Actions computer model develops cost estimates as a BRAC package and not for individual BRAC MILCON projects, we were unable to determine the amount of cost increases for each individual BRAC MILCON project. Additionally, because of prior audit efforts that determined potential problems with all BRAC MILCON projects, our audit objectives included all large BRAC MILCON projects.

## **Background of Defense Base Realignment and Closure**

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**Overall Audit Selection Process.** We reviewed the FY 1998 BRAC MILCON \$354.3 million budget submitted by the Military Departments and the Defense Logistics Agency. We excluded projects that were previously reviewed by DoD audit organizations, unless the projects were subsequently modified by the Military Departments. We grouped the remaining BRAC MILCON projects by location and selected all projects in the budget. We also reviewed those FY 1997 BRAC MILCON projects that were not included in the previous FY 1997 budget submission, but were added as part of the FY 1998 BRAC MILCON budget package.

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## **Audit Team Members**

This report was prepared by the Contract Management Directorate, Office of the Assistant Inspector General for Auditing, DoD.

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